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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,292	12/01/2000	Jonathan Yen	10004133-1	4936

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

KHOSHNOODI, NADIA

ART UNIT PAPER NUMBER

2137

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/728,292	YEN ET AL	
	Examiner	Art Unit	
	Nadia Khoshnoodi	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 20-29 is/are pending in the application.
- 4a) Of the above claim(s) 17-19 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6, 16, 20 and 22-29 is/are allowed.
- 6) ☒ Claim(s) 7-15 & 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/1/2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/9-19-2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Claims 1-16 & 20-29 are pending. Applicant's arguments/amendments with respect to claims 1-6, 16, 20 & 22-29 filed 9/19/2005 have been fully considered and are persuasive. The rejection of claims 1-6, 16, 20 & 22-29 has been withdrawn.

Applicant's arguments/amendments with respect to currently amended claims 7-9 & 21 and previously presented claims 10-15 filed 9/19/2005 have been fully considered and therefore the claims are rejected under new grounds.

Terminal Disclaimer

I. The Terminal Disclaimer filed on 9/19/2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 6,751,352 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Allowable Subject Matter

II. Claims 1-6, 16, 20 and 22-29 are allowed.

The following is an Examiner's statement of reasons for allowance: the closest prior arts Epstein et al. (US Patent No. 6,601,172), Wang et al. (US Patent No. 5,490,217), and Sabourin et al. (*Offline Signature Verification by Local Granulometric Sized Distribution*) taken singly or in combination do not teach or fairly suggest, among other things, converting the base image into a marked image containing a graphical encoding of the signed message by segmenting image areas to be encoded, and encoding the segmented image areas with sets of two-dimensional code

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patterns to graphically encode the corroborative signed message in the marked image. It is for this reason and in combination with other elements of the claims that claims 1-6, 16, 20, and 22-29 are allowable over the closest prior arts Epstein et al. (US Patent No. 6,601,172), Wang et al. (US Patent No. 5,490,217), and Sabourin et al. (*Offline Signature Verification by Local Granulometric Sized Distribution*).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claim Rejections - 35 USC § 103

III. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

IV. Claims 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein U.S. Patent No. 6,601,172 and further in view of Zank et al., US Patent No. 6,307,955.

As per claim 7:

Epstein teaches generating a corroborative signed message from information to be encoded (col. 2, lines 24-60). Not explicitly disclosed by Epstein is converting a base image that includes an image of a handwritten signature into a marked image having a visual appearance

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that resembles the base image and contains a graphical encoding of the signed message.

However, Zank et al. teach a handwritten signature that preserves all of the features/elements of the biometric signature, for example by having time related information encoded into the signature. Furthermore, this signature can also be added to a document for authentication purposes. Therefore it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein to include converting a base image that includes an image of a handwritten signature into a marked image having a visual appearance that resembles the base image and contains a graphical encoding of the signed message. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Zank et al. in col. 5, lines 43-62 and col. 7, lines 51-59.

As per claim 8:

Epstein and Zank et al. substantially teach the method of claim 7. Furthermore, Zank et al. teach converting the handwritten signature image into a vector form image (col. 5, lines 29 – col. 6, line 8).

As per claim 9:

Epstein and Zank et al. substantially teach the method of claim 8. Furthermore, Zank et al. teach obtaining a set of base control points for the vector form image and encoding the information by displacing the base control points to obtain a marked set of control points from which the marked image is produced. (col. 5, lines 29 – col. 6, line 8 and col. 8, lines 44-67).

As per claim 10:

Epstein and Zank et al. substantially teach the method of claim 1. Not explicitly

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disclosed is extracting the signed message from the marked image. However, Epstein mentions that in one embodiment that an image, which is the message in this instance, is signed and combined with some kind of identification tag/field before storing. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein to extract the signed message from the marked image of the message when retrieving because these are steps opposite to those used for encoding/signing the message. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Epstein in col. 4, lines 18-58.

As per claim 11:

Epstein and Zank et al. substantially teach the method of claim 10. Furthermore, Epstein teaches a module includes apparatus to hash the time stamp and decrypt the notary's signature using the notary's public key and compare the results to determine the origin of the time stamp and that the contents have not been altered (col. 7, lines 24-28).

As per claim 12:

Epstein and Zank et al. substantially teach the method of claim 10. Not explicitly disclosed is further comprising decoding the extracted signed message to be decoded. However, Epstein teaches decoding the signed message to produce a decoded message. Therefore, it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein to extract the signed message and decode it in order to obtain the information. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is

suggested by Epstein in col. 2, lines 38-63.

As per claim 13:

Epstein and Zank et al. substantially teach the method of claim 12. Furthermore, Epstein teaches extracting from the decoded message an encrypted original cryptographic hash and the encoded information (col. 2, lines 38-63).

As per claim 14:

Epstein and Zank et al. substantially teach the method of claim 13. Furthermore, Epstein teaches decrypting the encrypted original cryptographic hash with a public key (col. 2, lines 60-63).

As per claim 15:

Epstein and Zank et al. substantially teach the method of claim 14. Furthermore, Epstein teaches that one way the data can be authenticated is by extracting information by producing a new cryptographic hash from the extracted information, and comparing the new cryptographic hash with the original cryptographic hash (col. 6, lines 23-38).

V. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein U.S. Patent No. 6,601,172 and Zank et al., US Patent No. 6,307,955, as applied to claim 8 above and further in view of Kashi et al., US Patent No. 5,828,772.

As per claim 21:

Epstein and Zank et al. substantially teach the method of claim 8. Not explicitly disclosed is wherein the converting of the handwritten signature image comprises fitting a sequence of spline curves to the handwritten signature. However, Kashi et al. teach using a spline curve for smoothing the coordinates. Therefore it would have been obvious to a person in

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the art at the time the invention was made to modify the method disclosed in Epstein to use spline curves as the operation to get the right shape of the signature image. This modification would have been obvious because a person having ordinary skill in the art, at the time the invention was made, would have been motivated to do so since it is suggested by Kashi et al. in col. 4, lines 18-27.

**References Cited, Not Used*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Moore, US Patent No. 5,838,814
2. Wu et al., US Patent No. 6,748,533

The above references have been cited because they are relevant due to the manner in which the invention has been claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nadia Khoshnoodi whose telephone number is (571) 272-3825.

The examiner can normally be reached on M-F: 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nadia Khoshnoodi
Examiner
Art Unit 2137
10/24/2005

NK



EMMANUEL L. MOISE
SUPERVISORY PATENT EXAMINER